

REMARKS

The Office Action and the cited and applied references have been carefully reviewed. No claim is allowed. Claims 1-5, 8 and 10 presently appear in this application and define patentable subject matter warranting their allowance. Reconsideration and allowance are hereby respectfully solicited.

The telephonic interview on July 16, 2009, is gratefully acknowledged. After receiving the advisory action mailed July 13, 2009, the undersigned called the examiner to explain that the applied Cleuziat reference does not disclose or teach the positively recited feature of the instant claims that the ribonucleotide is positioned at the 3' terminus or on the 3'-terminal side of the primer. The examiner indicated that an additional search would be conducted.

Claims 1-5, 8 and 10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Cleuziat et al. (US 5,824,517) in view of Kacian et al. (US 5,916,777). The examiner takes the position that Cleuziat teaches the presently claimed invention with the exception that Cleuziat does not teach the ribonucleotide being positioned at the 3' terminus or on the 3' terminal side of the primer. However, the examiner asserts that it would be *prima facie* obvious to place the ribonucleotide at the 3' terminus of a

chimeric primer because Kacian teaches DNA primers with ribonucleotides at the 3' terminus are used to prevent contamination during PCR and that they also provide a convenient cleavage site for separation of the primer from the oligonucleotide product. This rejection is respectfully traversed.

The presently claimed invention is characterized by the use of a "ladder-forming oligonucleotide primer", which is recited in claim 1 (see lines 24-34 of claim 1) as having a characteristic structure comprising the following sequences (1) and (2):

(1) a sequence complementary to a region of the nucleic acid template that is complementary to the first chimeric oligonucleotide primer

and/or a nucleotide sequence 3' to said region; and

(2) a sequence complementary to:

(a) a nucleotide sequence on the 5' side of the second chimeric oligonucleotide primer which is homologous to the nucleic acid template; and

(b) a nucleotide sequence of the nucleic acid template corresponding to a region 5' to the 5' terminus of the portion homologous to the second chimeric oligonucleotide primer; or both, and

wherein sequence (2) is positioned on the 5' terminal side of the ladder-forming oligonucleotide primer.

Attached hereto is a reference figure that schematically illustrates a "ladder-forming oligonucleotide primer" and a nucleic acid template for a better understanding of the recited features of the "ladder-forming oligonucleotide primer". The ladder-forming oligonucleotide primer is shown in the attached figure as having:

(1) a sequence complementary to a region of the nucleic acid template shown that is complementary to the first chimeric oligonucleotide primer; and

(2) a sequence complementary to a nucleotide sequence of the nucleic acid template corresponding to a region 5' to the 5' terminus of the portion homologous to a second chimeric oligonucleotide primer.

As can be seen from the attached figure, the ladder-forming oligonucleotide primer recited in the present claims has sequences, each of which corresponds to a sequence positioned on either of the termini regions of the nucleic acid template to be amplified - one sequence is a sequence complementary to a region complementary to the first chimeric oligonucleotide primer, and the other sequence is a sequence complementary to a region homologous to the second primer or a region 5' to said region. Polynucleotides in which the region

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to be amplified are tandem-positioned can be formed by using the above primers. By contrast, Cleuziat does not disclose or suggest the ladder-forming oligonucleotide primers (along with their characteristic sequences) used in the presently claimed invention. Kacian's teaching of positioning a ribonucleotide at the 3' terminus of a chimeric primer, as applied by the examiner, does not satisfy this deficiency. Accordingly, Cleuziat and Kacian cannot lead one of ordinary skill in the art to the presently claimed invention.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

In view of the above, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant(s)

By /ACY/
Allen C. Yun
Registration No. 37,971

ACY:pp
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
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